

The main objective of the project is to characterize already identified isolates of microscopic fungi associated with human corpses. Fungal growth is a natural process during the decomposition of corpses, especially on corpses that have been exposed to the elements or exhumed. The presence of fungi is often ignored, although their potential is increasingly recognized. Currently, studies comparing the composition of mycobiota at different stages of corpse decomposition are available, as well as descriptions of individual cases. Several cases have been described in which the growth of fungi on corpses has been used to determine the time elapsed since death. Unfortunately, little is still known about the composition and growth rate of fungi on human corpses. In our project, we focused on material from corpses at various stages of decomposition and stored for a long time in a cold room, with macroscopically visible fungal growth. We expect that storing corpses in a cold room will affect the composition of their mycobiota and stimulate the growth of psychrophilic and psychrotolerant species.

Microscopic fungal isolates have already been identified using phenotypic and molecular methods. The main stages of the project are to determine their enzymatic profile and, in the case of fungi with pathogenic potential, their sensitivity to standard antifungal drugs. The final stage will be to link the state of decomposition of the corpses and the place and time of deposition with the isolated fungi. These research tasks will allow the impact of the isolated fungi on the decomposition of corpses to be determined and their potential risk to humans to be assessed.

This field has enormous potential as an aid in criminal investigations, especially when entomological evidence is unavailable. However, additional research is needed, including descriptions of specific cases, attempts to link the species composition of fungi to the stage of corpse decomposition, and the determination of the enzymatic profile of specific strains isolated from corpses.